AMENDMENTS TO THE CLAIMS

Please cancel claims 1, 2, 4, 6 and 9-16 without prejudice or disclaimer of the subject matter thereof.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1. (Canceled)
- 2. (Canceled)
- 3. (Currently Amended) A three-dimensional shape measuring apparatus comprising[[;†]:
 - a measurement head for measuring a three-dimensional shape of a sample;
 - a stage rotatably holding the sample thereon; and
- a movement mechanism for horizontally moving a relative position measurer using at least one of electrostatic capacity, air pressure, and light to measure a relative position between the sample and the measurement head,

wherein three-dimensional shapes at a plurality of points on the sample are measured by a combination of operations of the stage and the movement mechanism and by the measurement head the relative position measurer includes at least two measurement members disposed so as to sandwich the measurement head therebetween; and

wherein while the measurement head measures the three-dimensional shape of the sample, the relative position measurer obtains a weighted average of outputs of the at least two measurement members so as to acquire a change in the relative position between the sample and the measurement head, the sample being disposed at a position to be measured by the measurement head.

- 4. (Canceled)
- 5. (Currently Amended) The three-dimensional shape measuring apparatus according to claim 1,

wherein the measurement head uses at least one of:

- (1) a method of irradiating light on the sample, measuring at least one of an angle distribution or wavelength distribution of scattered light, and thereby estimating measuring a three-dimensional shape of the sample in an irradiated area of the light;
- (2) a method of making a probe contact with the sample and measuring a three-dimensional shape of the sample [[while]] by making the probe and the sample [[are]] relatively scanned;
- (3) a method of irradiating a charged particle beam onto the sample, detecting a secondary electron or reflected electron <u>from the sample</u>, and thereby measuring a three-dimensional shape <u>of the sample</u>;
- (4) a method of irradiating a charged particle beam onto the sample, changing an angle of <u>irradiation of</u> the <u>irradiated charged particle</u> beam to form a plurality of images, and measuring a three-dimensional shape <u>of the sample</u> from a positional relation between the plurality of images <u>acquired</u>;
- (5) a method of irradiating a charged particle beam onto the sample, detecting a hologram image thereof of the charged particle beam, and measuring a three-dimensional shape of the sample;
- (6) a method of using a change in a light intensity or a level of sharpness due to a variation of a focus position of an light image under a microscope to measure a three-dimensional shape of the sample;
- (7) a method of interfering detection light and reference light under a microscope to measure a three-dimensional shape of the sample; and
- (8) a method of irradiating a laser beam onto the sample under a microscope, performing scanning the laser beam, and thereby measuring a three-dimensional shape of the sample.

6. (Canceled)

7. (Currently Amended) The three-dimensional shape measuring apparatus according to claim [[1]] 3, further comprising a measurement means for measuring a relative position between the measurement head and the sample,

wherein measurement information on the relative position obtained by the relative position measurer is used to control a position of at least one of the measurement head and the stage.

8. (Currently Amended) The three-dimensional shape measuring apparatus according to claim 1, further comprising a measurement means for measuring a relative position between the measurement head and the sample,

wherein the relative position measurer is used to record a change in the relative position between the measurement head and the sample, and measurement information by the measurement means on the recorded change is used to correct a measurement result of the three-dimensional shape of the sample obtained by the measurement head.

Claims 9 – 16 (canceled)